# BROAD AGENCY ANNOUCEMENT (BAA)

## Human Factors Division (HFD) BAA 10-16

# Effective Risk Communications Against the IED Threat Phases II-IV

**White Papers Due: See Anticipated Schedule of Events in paragraph 5.6**
**Full Proposals Due: See Anticipated Schedule of Events in paragraph 5.6**

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# 1. General Information

## 1.1. Introduction

This solicitation is a Broad Agency Announcement (BAA) issued pursuant to Federal Acquisition Regulation (FAR) Subpart 6.102(d)(2) and FAR 35.016 which provides for the competitive selection of research proposals. Contracts based on responses to this BAA are considered to be the result of full and open competition and in full compliance with the provisions of Public Law (PL) 98-369, "The Competition in Contracting Act of 1984." A formal Request for Proposals (RFP) will not be issued. Awards under this BAA are planned in Fiscal Year (FY) 2011. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

## 1.2. Agency Name

Department of Homeland Security
Science & Technology Directorate
Human Factors / Behavioral Sciences Division
Washington, DC 20528

## 1.3. Research Opportunity Title

Effective Risk Communications Against the IED Threat—Phases II-IV

## 1.4. Program Name

Human Factors / Behavioral Sciences Division (HF/BSD), Science and Technology Directorate, Department of Homeland Security

## 1.5. Research Opportunity Number

BAA 10-16

## 1.6. Solicitation and Response Approach

The Department of Homeland Security (DHS) Science & Technology (S&T) Directorate will not issue paper copies of this announcement. DHS S&T reserves the right to select for award and fund all, some, or none of the Full Proposals received in response to this solicitation. No funding for direct reimbursement of proposal development costs will be allowed. White Papers, Technical and Cost Proposals (or any other material) submitted in response to this BAA will not be returned. However, depending on the markings on the proposal, DHS S&T will adhere to FAR policy on handling source selection information and proprietary proposals. It is the policy of DHS S&T to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation. Offerors are to provide unclassified proposals. Documents containing sensitive information that are not suitable for uncontrolled public dissemination should be marked

"For Official Use Only" (FOUO). When transmitted electronically, FOUO proposals should be sent with password protection.

In the event an Offeror or subcontractor is a Federally Funded Research and Development Center (FFRDC), Department of Energy National Laboratory, or other Federally funded entity, DHS S&T will work with the appropriate sponsoring agency to issue an interagency agreement pursuant to the Economy Act (31 U.S.C. 1531) or other appropriate authority. Depending on the nature of the Full Proposals received, DHS S&T will also consider awarding a grant or cooperative agreement. Therefore, the applicable laws and regulations governing the legal vehicle used for award will depend on the legal vehicle chosen by DHS S&T. In this regard, Offerors should propose a preferred vehicle type for DHS S&T to consider for award.

A two-step proposal selection process will be used for this solicitation to minimize the cost and effort for prospective offerors. Step 1 will consist of the solicitation, receipt, and evaluation of White Papers. White Papers should be concise and conform to the specified format and word count limitations according to the instructions in Section 5.3 and the template provided in Appendix B, section 9.2. No formal transmittal letter is required for the submission of the White Paper.

An evaluation and selection process will be conducted by DHS S&T and those White Papers selected will be encouraged to participate in Step 2, the solicitation, receipt, and evaluation of a Full Proposal. The Full Proposal is limited to a maximum of 30 pages for Volume I Technical Proposal, excluding the Formal Transmittal Letter, Cover Page, Table of Contents and resumes and *curriculum vitae* (CVs) for proposed performers.

### 1.7. Response Dates

The schedule of submissions for White Papers and Full Proposals is outlined in paragraph 5.6.

# 2. Research Opportunity Description: Effective Risk Communications Against the IED Threat

## 2.1 Background

The U.S. Department of Homeland Security (DHS) is committed to using cutting-edge science and technology and scientific talent in its quest to make America safer. The DHS Science and Technology Directorate (S&T) is tasked with researching and organizing the scientific, engineering, and technological resources of the United States and leveraging these resources and capabilities to help protect the homeland. The Human Factors and Behavioral Science Division (HF/BSD) within S&T applies the social and behavioral sciences to improve the detection, analysis, and understanding of threats posed by individuals, groups, and radical movements; supports the preparedness, response, and recovery of communities impacted by catastrophic events; and integrates human factors into homeland security technologies. The project in Effective Risk Communications Against the IED Threat—hereafter referred to as the

"CIED (i.e., Counter-IED) Risk Communications" project—within the Community Preparedness and Resilience program area, supports this effort by examining the methods and means for framing effective hazard and risk warnings and public service communications by local government officials, senior First Responders, and civic leaders in the event of a terrorist attack or campaign employing Improvised Explosive Devices (IEDs).

The objective of this research effort is to develop empirically-based and peer-reviewed guidelines for use by local government officials and civic leaders in framing hazard and risk warnings for their communities in the event of a terrorist attack employing an improvised explosive device. Based on these guidelines, the project will then deliver a PC-based Risk Communications Simulation System (RCSS) for creating realistic training scenarios using locally generated video and digital imagery to enable local officials to develop, analyze and assess the impact of hazard and risk warnings, public service announcements, and communications to the public for specific threat scenarios. In addition to its use in developing training scenarios, the RCSS is intended to permit evaluation of different courses of action and communications strategies for transmitting warnings and instructions through the various media, as well as to evaluate the effectiveness of messages and issuing authorities for messages targeted at specific populations. While focused on the problem of terrorism involving IEDs, a Risk Communications Simulation System would potentially have broad applicability for training local leadership in risk communications strategies to protect communities and citizens against hazards and threats from any source.

The United States has little experience in dealing with an immediate threat of attack that could affect individual American citizens in their own communities. Consequently, civic officials have little experience or training in how to instruct the public in safety measures they should take during terrorist attacks or similar extraordinary events. Experience that is gained is often acquired through managing public service announcements and information releases during natural disasters or technological incidents, or criminal activity such as serial crimes, kidnappings, gang violence, and protests or civic disturbances. Americans have experienced relatively few violent incidents that posed the threat to personal safety typified by the 9/11 World Trade Center and Pentagon attacks; the 1995 bombing of the Alfred P. Murrah Federal Office Building in Oklahoma City; the Unabomber attacks from 1978 to 1995; and the anthrax and sniper attacks in the Washington, D.C. metropolitan area in 2001 and 2002. Consequently, it is only rarely that civic officials have been faced with the challenge of issuing instructions or warnings involving a direct threat to public security and safety resulting from terrorist attack.

If terrorists were to stage a coordinated attack or multiple attacks against the American people using IEDs, VBIEDs (vehicle-borne IEDs), or suicide bombs against targets within communities and public gathering places, the challenge to public safety and security would be complex and would have national implications. In a free and open society, it is virtually impossible to ensure the safety of all citizens and the protection of all targets against every possible terrorist threat. As a consequence, it is critical that civic officials understand the steps that can and should be taken at the local, regional, and national levels to inform the public and manage the security problem posed by

terrorism and the potential employment of improvised explosive devices. Under such circumstances, the ability to provide information quickly, accurately, and credibly is critical to saving lives, preventing widespread damage, and maintaining social cohesion and the citizens' trust in government.

Communications to provide warnings of disaster or danger are often categorized as risk communications (i.e., warnings or instructions issued prior to a potential or imminent event) and crisis communications (warnings or instructions issued in response to a specific event). An actual IED attack in any community would constitute a crisis that would demand immediate warnings and instructions on the part of local government officials and first responders to inform the public how to protect themselves, to alter their normal routines, and to provide information of suspicious activity to authorities. In addition, an IED attack in any community of the nation would have implications for every other community in the nation, and would likely result in risk communications or warnings of potential attack to be issued by national, regional and/or state authorities, as well as by local leadership to ensure increased vigilance and preparedness on the part of the public and to reassure them of measures being taken to ensure public safety and security.

Inasmuch as an IED attack or campaign would necessitate communications from leadership in the affected community and also in communities not immediately affected, this project will examine hazard and risk communications to alert the public of potential or imminent attack, to provide instructions to the public immediately after an event, and to provide information and reassurance and to engage public cooperation in the aftermath of an event.

Figure 1 provides a simplified illustration of the flow of information to and from local authorities in the event of a potential or actual terrorist incident involving an IED that would affect public perceptions and understanding and determine actions taken by citizens to protect themselves and their communities.

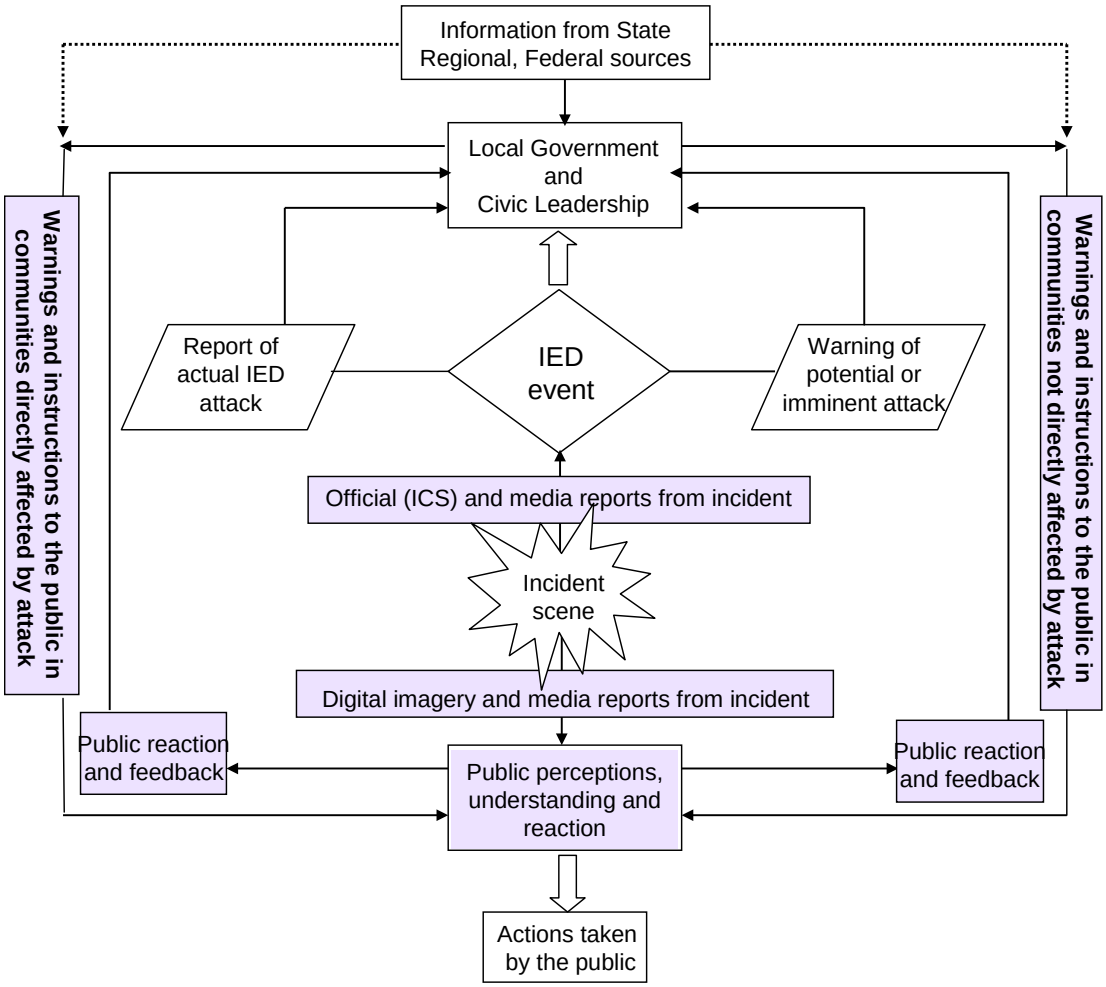


Figure 1. Communications flow to/from the public during an actual or potential IED attack.

Numerous communications factors affect public awareness and behavior. Of particular significance to this project are three factors: (1) the content of the message, that is, the manner in which critical information is framed and its effect on the way in which a message is understood and interpreted by the receiver; (2) the source of the information, specifically the authority or credibility of the official issuing the warning—or the credibility of other (sometimes competing) sources interpreting that warning—and how credibility shapes public willingness to follow directions or take appropriate action; and (3) the media used to convey the message, whether the means is a warning siren or horn, a news report or public service announcement on radio or television or other electronic media; or by word of mouth and personal contact among trusted individuals.

Public perceptions and decisions are increasingly informed by digital imagery and voice/text reports provided from victims, witnesses and civilian responders at the scene of an incident (e.g., the 2008 terrorist attacks on the Taj Mahal Palace in Mumbai, India; the 2009 mass shootings of U.S. service personnel at Fort Hood, Texas). At the

same time, civil authorities may have access to information from authorities at the scene and from intelligence sources to which the public has no immediate access, but which must be released in some form to guide public awareness and precautions.

Moreover, both the public and the leadership respond to and make use of the media's treatment of information transmitted via public or commercial broadcast. All of these sources of information—as well as prior education and preparation of the public—will affect how citizens perceive the threat within their own communities and take action to protect themselves, their assets and their families. These factors will also affect the degree to which members of the public understand the risks and engage with local authorities to provide information that may prove vital in maintaining local security.

The threat of IED attack is shared almost universally by U.S. communities and citizens, private sector enterprises and public sector agencies, and across the 18 sectors of the nation's critical infrastructure and key resources. Consequently, the community of interest (COI) for this research effort includes public officials, senior first responders, private and public sector managers and operators of critical infrastructure and key resources, and agency leads across U.S. jurisdictions and communities from the Federal, State, regional and local levels.

## 2.2 Project Overview and Scope of Work

This Broad Agency Announcement (BAA) solicits proposals for Phases II-IV of a four-phase research and development effort. Phase I of the CIED Risk Communications project is currently in progress. Phases II through IV are envisioned as a four-year R&D effort to develop and evaluate a prototype Risk Communications Simulation System. The following information provides an overview of the scope of the entire project.

The Phase II effort begins with the submission of a White Paper to DHS S&T per the process described in Section 5. After reviewing White Papers, DHS S&T will request Full Proposals from those offerors whose White Papers indicate the most promising research and development approaches, a clear understanding of the scope and nature of the project, and technical capabilities sufficient to pursue the project to completion. White Papers and Full Proposals should clearly indicate an understanding, technical capability and willingness to conduct the entire scope of the RDT&E effort required to execute Phases II through IV. While White Papers are conceptual in nature, offerors should concisely address the research and development approach that would be detailed in a Full Proposal. From the Full Proposals submitted, one or more performers may be selected for award. The following information provides an overview of the scope of the entire project as currently envisioned.

### 2.2.1. Phase I: Foundational research (provided for background information).

The objective of Phase I (currently in progress) is to develop preliminary recommendations based on research into historical experience, relevant literature and analyses, and current practice, for methods to prepare government officials, civic leaders, media representatives, law enforcement officials, and emergency managers to properly develop and issue hazard and risk warnings to the public in the event of a

terrorist attack involving an improvised explosive device. Phase I is conducting basic research into existing knowledge and practice for hazard and risk warnings issued to the public in the event of immediate or imminent threat. Specific tasks of this basic research effort are to:

a. Identify the state of knowledge and practice in risk communications and current guidance and training provided to public officials for framing effective warnings to the public for events involving the threat of terrorism, and specifically terrorism employing Improvised Explosive Devices (IEDs). Additionally, identify current experience or cases that might validate those practices, including recent exercises.

b. Identify corresponding research and best practices among U.S. allies who have real-world experience with terrorism involving IEDs. Examine any research conducted or methods employed by those nations to validate the effectiveness of their public warnings and communications procedures or methods.

c. Research emerging practices in the use of "Web 2.0" digital communications to include hand-held PDAs, cell phones, internet-based social networking, and text messaging to identify implications for risk communications informing the public of immediate threat of terrorist attack. Also investigate the potential effects on public perceptions resulting from on-scene reporting with real time video and photographic images generated by the public during terrorist incidents.

d. Convene a panel of experts to consider the foregoing results, to examine existing research and practice in the field of risk communications, and to develop recommended guidance or principles that could assist public officials, professional media, and first responders in effectively framing and issuing warnings and instructions to the public in the event of terrorist attack using IEDs.

### 2.2.2. Phase II: Concept development and research approach

Phase II will conduct a feasibility study and develop a concept of operations and basic research approach as the foundation for designing, integrating and building a Risk Communications Simulation System. Phase II is expected to be one year in duration and deliver the following elements:

a. A **Feasibility Study** of the potential for developing a PC-based Risk Communications Simulation System (RCSS) for creating realistic training scenarios to enable local officials to develop, analyze and assess the impact of hazard and risk warnings, public service announcements, and communications to the public for specific threat scenarios. The feasibility study should address the approach for developing a "serious game" that could effectively represent

- The manner in which the message is framed and the effect on receptivity or interpretation by particular audiences or communities;

- The utility or influence of particular media by which the message is transmitted to an audience or community;
- The effect of authority and credibility of particular spokespersons or agency representatives on the influence the message holds for conveying information and soliciting appropriate action from the public.

The feasibility study should address the state of currently available technology or potential for developing the technology within the timeframe of this project (3-4 years). The ability to integrate systems outlined in paragraph 2.2.3 below and, specifically, to embed and use locally generated digital still and video images in scenario generation should be addressed in the feasibility study.

b. A detailed **Concept of Operations** that provides an overview of the models and simulation system envisioned and its proposed employment and utility as a tool for development of training scenarios, course of action analysis and evaluation of communications strategies. The feasibility study and Concept of Operations should be based on research and consultation with senior first responders, public administrators or officials, emergency managers, and representatives from organizations such as the Emergency Management Institute, National Emergency Management Association, or the National Academy of Public Administration to ensure end user needs are identified and accurately reflected in the proposed design. The Concept of Operations may include use-case scenarios and user models describing the interactions between end users such as senior first responders, local government officials or community leaders and the envisioned functionality of the proposed system for developing appropriate scenarios for use in training, course of action analysis, and the evaluation of communications strategies. The CONOPs should further address the system's anticipated use as both a stand-alone training system and as a component in a federated system or network during regional or national exercises. The CONOPs and Feasibility Study should address the incorporation of data and best practices that is being identified in Phase I, and which will be made available to the performer.

c. **A literature review and summary of current information technology systems.** The literature review should synthesize relevant technical information and scientific literature as background for the subject and the proposed research and development effort. Background information on risk and crisis communications is being reviewed and compiled separately under the Phase I research effort. Literature reviewed for this task should therefore focus principally on such questions as the use of M&S for operational training and decision support; human behavior modeling using agent-based models; human systems engineering/integration (HSE/HSI) of computer systems; and the modeling of risk, risk communications and outcomes. The technology summary should include a list of models, simulations, training systems and planning/decision support systems that are currently in use in Emergency Operations Centers or fusion centers with which the RCSS would need to operate, such as WebEOC, ArcGIS, HAZUS, TRANSIMS, JSAF, or other planning or simulation models or IT systems. Include, as well, any

COTS/GOTS gaming engines that would be proposed for consideration as a backbone of RCSS, or with which the RCSS should be compatible.

d. A proposed **Project Management Plan** from concept development through component selection and system integration, and prototype demonstration. The plan will include a Human System Interface (HSI) sub-plan describing HSI activities and products required to develop, design, and validate requirements for user interfaces, notably scenario visualization displays, GIS and other information displays, and decision-support utilities. The Project Management Plan will be submitted to DHS S&T for approval prior to commencement of Phase III.

e. **Proposed methodology for conducting a comparative analysis of available COTS/GOTS simulation systems** and the selection process proposed for assessing and selecting candidate systems, to include comparative cost analysis. Where development of an original system is proposed, the need for a new development effort should be justified, with shortfalls of existing systems specified. System development and integration risks shall be identified and methods to mitigate those risks shall be specified. In conjunction with this task, the Offeror will organize—and may participate in—an "Industry Day" symposium to afford vendors the opportunity to demonstrate available COTS/GOTS models and simulation systems that would merit consideration for the Risk Communications Simulation System.

f. **A proposed set of technical specifications for the prototype Risk Communications Simulation System**. Specifications should reflect end-user requirements and will include human engineering criteria for the design of user interfaces based on data identified in recognized design standards (e.g., MIL STD 1472, ASTM 1166, ASTM 1337). Full technical specifications for the Risk Communications Simulation System will be provided at the end of the first year effort as a deliverable for approval by DHS S&T. The adoption or development of non-proprietary, open-architecture systems is considered highly desirable to the intent and success of this program, though the use of licensed commercial components or subsystems may be considered with adequate justification. Validation and verification strategies and test and evaluation criteria for the prototype demonstration in Phase IV should be fully developed and included as an annex to the technical specifications.

g. **A plan or proposed methodology for modeling the effects of hazard and risk communications on the behavior of populations**, to include the methodology for incorporating findings from Phase I (Section 2.2.1 above) into the RCSS. Attention should be paid to the three aspects of effective communications listed in paragraph 2.2.2.a (Feasibility Study) above. Specifically, the plan should address the technical challenge posed by modeling the influence on human behavior of risk warnings or instructions related to impending or actual IED events, rather than human behaviors stemming from the direct influence of the kinetic event or terrorist attack itself. Potential applicability of these human behavior models to other scenarios dealing with the influence of hazard and risk warnings (i.e., building evacuation or shelter in

place orders; hurricane or storm warnings; wildfire evacuation orders; etc.) may be addressed as potential additional outcomes of this task. Strategies for testing and evaluating the simulation models and assumptions against historical or empirical data should be described, and the targeted or anticipated degree of statistical bias and efficiency in the models sought should be specified. The expected degree of internal and external validity of the proposed models should be described.

h. **An assessment of potential technical challenges** anticipated in integrating the proposed modeling and simulation systems (described in section 2.2.3 below) to permit the simulation of disaster scenarios and the impact of those scenarios on communities in the affected region. Compatibility with IT, GIS and M&S systems currently in use in Emergency Operations Centers should be addressed. Offerors should include a risk mitigation strategy that addresses the challenges. In addition, this section should identify any further research questions or gaps in current knowledge or technical capability that would impact the ability to deliver a Risk Communications Simulation System within the proposed timeframe of 3-4 years. Needs for further preliminary research or development and potential level of effort required should be identified.

i. **Identification of potential public acceptance and privacy issues** relevant to the development of scenarios using locally generated digital video or still photography as a means to heighten realism and relevance for training in public communications strategies in terrorism or disaster preparedness and response. Proposed mitigation strategies to this dimension of the project should be addressed.

j. **A detailed, fully developed cost estimate for research and development of the proposed system**, to include costs of all hardware, software, labor hours and labor categories, travel, and associated research and development costs for Phase III development through test and evaluation in Phase IV. A cost-benefit analysis and analysis of alternatives among feasible computer-based game and simulation approaches should be included, as well as for other training and evaluation alternatives, such as traditional table-top exercises.

At the completion of Phase II, DHS S&T will assess the potential for successful research and development and likely value and utility of the proposed system in view of such factors as the need for further basic research, the composition of proposed team of performers, qualifications of the lead system integrator if proposed, and other issues relevant to the construction, integration and demonstration of the Risk Communications Simulation System. The following sections describe the research and development effort currently envisioned for Phases III and IV. Offerors submitting proposals under this BAA should consider this information as guidance for framing the Phase II concept and research approach and the Phase III/IV initial estimates, as Phase III/IV requirements may be modified based on the results of the Phase II research.

### 2.2.3. Phase III: System development and integration

The objective of Phase III is to develop a computer-based Risk Communications Simulation System that will enable public officials to formulate, evaluate, and rehearse communications strategies based on the preliminary procedures identified in Phase I, and the concept of operations, research approach and program plan developed in Phase II. The simulation system will be built on "serious game" technology directed at enabling local authorities to construct realistic training scenarios for terrorist incidents relevant to their communities and jurisdictions using disaster impact models, human behavior models, and locally generated digital photography and video imagery. Development and demonstration of the Risk Communications Simulation System is the major deliverable of this project.

Figure 2 shows a conceptual diagram of components that could comprise a simulation based training system capable of meeting the requirements for risk communications training envisioned by this project. While focused principally on its use by local officials and first responders, the system would be scalable to enable modeling risk communications and public reaction and response at the regional or state level, as well. The system should be capable of presenting all dimensions of the risk communications problem from public service announcements or warnings prior to or in anticipation of a terrorist attack; warnings and instructions issued in the immediate aftermath of an attack; and longer term effects from continuing instructions and clarifications after an attack. Offerors are expected to present credible evidence in their proposals of the feasibility and capability to achieve the objectives of this proposal to develop a Risk Communications Simulation System through this, or any other appropriate concept.

**NOTE: Figure 2 is intended to depict a nominal configuration for an RCSS and should not be considered prescriptive or preferred.**

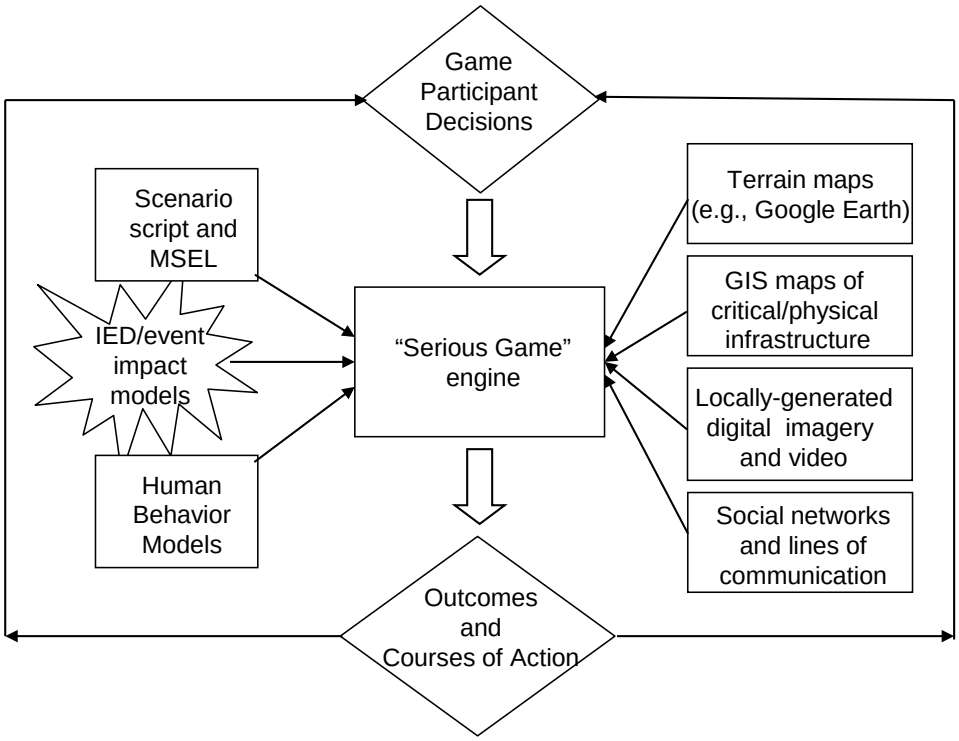

Figure 2. Nominal component configuration of a "Serious Game" for modeling and analyzing effects of hazard and risk communications to the public

The objective is to integrate these or other appropriate models into a PC-based computer simulation system for development of tailored scenarios with variable Master Scenario Event Lists (MSEL) to support locally-relevant course-of-action analysis and scenario-based training and exercises. The system should support both local stand-alone operations and the capability for federated integration into a network to support regional or national-level exercises. Key requirements of this Phase of the project include:

a. Selection or development of a PC-based computer gaming engine that would serve as the framework for the system. The use of an open-architecture, non-proprietary system (e.g., Delta3D) is preferred, though alternatives would be considered with suitable justification.

b. Selection or development and integration of appropriate agent-based human behavior models that could be used to represent local populations and their interactions with transportation and communications infrastructures and relevant evacuation models employed in game scenarios. Models are sought that could replicate public reactions to hazards and terrorist incidents and also to the warnings and instructions issued by public authorities preceding and during those incidents. (Non-proprietary models such as TRANSIMS are likewise preferred).

c. Integration with existing data sources and models such as commercial terrain mapping (for example, Google Earth) and GIS maps of critical infrastructures, transportation, distribution and communications systems of the sort commonly employed in Emergency Operations Centers (e.g., ArcGIS);

d. The ability to incorporate locally-generated digital video and still photography to create realistic and accurate scenarios specific to the community or region of concern;

e. Compatibility with (i.e., ability to function in federated or integrated fashion) information management systems currently used in Emergency Operations Centers, such as WebEOC.

f. Development or integration of a realistic, scalable IED blast and damage model compatible with current damage or hazard impact models such as HAZUS.

Given the potential involvement of local authorities or DHS components with USNORTHCOM in Defense Support to Civil Authorities (DSCA) missions, the capability to support joint, multi-agency training scalable to regional and national-level exercises is highly desirable.

NOTE: The contractor provided solution shall be compliant with federal regulations and policies to include DHS Management Directive (MD) 4300 A,

NIST 800-37 Rev1 and the applicable DHS Hardening guidance for Operating systems and databases.
In addition, for performance of this contract the Contractor shall comply with all DHS SELC and Change Management processes.

Code Review: All Contractor designed, developed and implemented applications must successfully complete a DHS static source code security review. All code shall be submitted no later than thirty (30) days prior to the start of the Security Test & Evaluation (ST&E). It is recommended that code be provided periodically during the development/implementation phase to assist in the identification of security risks earlier in the coding lifecycle and to reduce the likelihood of schedule impact.

### 2.2.4. Phase IV: Prototype demonstration

Phase IV will integrate principal subsystems described above and demonstrate their use during a series of local and table-top exercises culminating in a formal prototype demonstration as part of a regional or national exercise. Test specifications and evaluation criteria developed in Phase II and refined in Phase III should be used for conducting test and evaluation of the prototype system in this phase, though other independent analysis should be anticipated. During this phase, HSI efforts should focus on identifying and integrating design requirements for operability, interoperability, usability, maintainability, and supportability. Human performance requirements should be traceable from the system level down to the subsystem and configuration item level. Performance compliance (component-, subsystem- and system-level) with HSI design standards should be addressed. Specific elements of this Phase include the following:

a. Integration of components listed above into a coherent Risk Communications Simulation System that is fully demonstrated in prototype, and which has the capability to operate in conjunction with other visual displays and planning tools commonly used in Emergency Operations Centers (e.g., WebEOC, HAZUS, ArcGIS, etc.).

b. Prototype demonstration based on validation and verification criteria and test specifications developed in Phase II.

c. An evaluation of Human Systems Interface (HSI) standards that support integration of design requirements for operability, interoperability, usability, maintainability, and supportability.

d. A formal prototype demonstration of the Risk Communications Simulation System during a series of table-top exercises and a formal prototype demonstration conducted in conjunction with a regional or national-level exercise.

The format, scheduling, and scenario development for the exercise(s) will be coordinated through DHS S&T and the FEMA National Exercise and Simulation Center or other appropriate exercise convening authority. Participation in these exercises will constitute the principal prototype demonstration(s) of the RCSS developed in Phase III. Following the prototype demonstration(s), additional

modifications or development may be pursued to incorporate professional feedback collected during the demonstration(s).

### 2.3. Project Summary

To summarize, the four key phases of this research project include:

- Phase I (in progress): Research and compilation of a set of recommended procedures, required capabilities and methodologies for effective risk communications to the public, vetted through peer review of professionals familiar with risk communications methods during civil emergencies or disasters and focused on the problem of terrorism involving IEDs;
- Phase II: Development of a Concept of Operations for a Risk Communications Simulation System supported by a feasibility study; a project management plan; set of technical specifications and V&V criteria; and methodology for comparative analysis—including projected life cycle costs—of available COTS/GOTS systems.
- Phase III: RDT&E of a Risk Communications Simulation System designed to aid public officials, emergency managers, senior first responders, and community leaders in understanding and developing risk communication strategies for informing their communities in the event of a terrorist attack or campaign involving IEDs.
- Phase IV: Demonstration of the prototype RCSS in a series of exercises culminating in a regional- or national-level exercise to assess system compatibility, performance and utility, and to receive feedback from the end-user community. From that feedback, work to improve or modify the RCSS will be identified and scheduled as required.

In pursuit of this capability, DHS S&T is seeking innovative, possibly disruptive technologies (i.e., disrupting the normal evolutionary technological development process) to improve homeland security at the local and regional levels. It is recognized that this project will have moderate to high risk, but that it also offers the opportunity for significant—even breakthrough—improvements in capabilities for planning and training among local authorities.

Technical innovation is a key factor and offerors should demonstrate that their efforts are aimed at developing, prototyping and demonstrating a high-payoff solution that will have the potential for making revolutionary rather than incremental improvements to homeland security, disaster preparedness, and overall resilience at the local level. Proposed solutions, systems and end-products developed under this project will be directed at two key objectives:

1. Through development of a Risk Communications Simulation System, provide new capabilities and options for government officials, emergency managers and local leaders to evaluate strategies and methods for communicating with citizens about immediate threats to security in order to better protect their citizens and assets; and

2. Advance the state of the art in developing and issuing hazard and risk warnings to the public, including the ability to evaluate the impact of on-scene reports and information provided by members of the public through the use of "Web 2.0" digital devices such as still and video images from cell phones, PDAs and social networking tools for the purpose of improving public safety and security.

Owing to the complexity of the tasks outlined above, offerors are encouraged to include team members—including social and behavioral scientists--who have expertise in basic and applied research as well as the practical application of modeling & simulation, risk communications, public administration, and emergency management to real-world problems. The expressed ability to integrate diverse scientific or research and development fields and present a unified team effort throughout the duration of this project will be held at a premium. Offerors should further identify as partners members of agencies at the state or local level who have operational experience in emergency management, public administration, or crisis leadership and have specified their willingness to serve as advisors or subject matter experts in this development effort, particularly for assessing the utility and usability of the proposed simulation-based training system and applying it to challenges in emergency management and the evaluation of communications methods and practices for disaster preparedness and response. Specific letters of interest or memoranda of agreement from sponsoring or supporting agencies may be included in the proposal as appropriate.

Preference will be given to system approaches that offer the greatest potential for use across the widest audience of end-users and applications related to the mission of the Department of Homeland Security. Usability, ease of use, compatibility with other M&S/GIS/IT systems, and scalability from local to regional levels are highly desired qualities in the proposed system. Principles of Human Systems Integration (HSI) should be outlined within the overall approach to systems engineering. Any COTS/GOTS products that are utilized must be tailorable for use by local agencies. A user-centered design process should be employed for development that incorporates up front user requirements analysis, user feedback, simulation-based user interface design, human performance risk mitigation, and usability testing.

### 2.4 Schedule and Deliverables

System development and integration of components is estimated to encompass a 2-3 year effort leading to prototype delivery and testing by the end of Year 4.The schedule for development and delivery of products for Phases II and III under this BAA is as follows:

Phase II: Concept Development and Research Approach (Year 1)

Specific deliverables for Phase II include:

a. Conduct a feasibility study for a PC-based Risk Communications Simulation System (RCSS) to enable local officials to develop, analyze and assess the

impact of risk communications issued to the public. The feasibility study should address the state of available technology or potential for developing the technology within 3-4 years.

b. Develop a Concept of Operations for the Risk Communications Simulation System and its proposed employment and utility as a tool for development of training scenarios, course of action analysis and evaluation of communications strategies for hazard and risk communications to the public.

c. Develop a Research and Project Management Plan from conception through system component development and integration, and prototype demonstration.

d. Conduct a literature review and develop a bibliography synthesizing relevant technical information and scientific literature as background for the R&D effort.

e. Provide a proposed methodology for conducting a comparative analysis of available COTS/GOTS simulation systems and the selection process proposed for assessing and selecting candidate systems.

f. Organize and conduct an "Industry Day" symposium to permit vendors to demonstrate available models and simulation systems that could be incorporated in the RCSS.

g. Develop an initial set of technical specifications for a prototype RCSS and describe the process and standards for validation and verification of components as well as the integrated system, to include test and evaluation standards.

h. Define a methodology for modeling the findings and results from Phase I research on the effects of risk communications and incorporating those results into the RCSS.

i. Conduct an assessment of potential technical challenges and mitigation strategies for integrating the proposed models and simulation systems into the RCSS.

j. Identify potential public acceptance and privacy issues and mitigation strategies relevant to use of locally generated digital video or photography in training scenarios.

k. Provide a detailed, fully developed cost estimate for research and development of the proposed system, to include associated research and development costs for Phases III and IV.

Phase III: Component Development and Integration (Years 2-3)

As noted in paragraph 2.2.3 above, the Phase III development effort involves the following:

a. Selection or development of a PC-based computer gaming engine that would serve as the framework for the system. The use of an open-architecture, non-proprietary system is preferred, although alternatives would be considered with suitable justification.

b. Selection or development of agent-based human behavior models that represent local populations and their interactions with physical terrain and infrastructures.

c. Integration of existing data sources and models such as commercial terrain mapping and GIS maps of infrastructure, transportation, distribution and communications systems;

d. The ability to incorporate locally-generated digital video and still photography to create realistic and accurate scenarios specific to the community or region of concern;

e. Ability to function alongside of or integrated with information management systems currently used in Emergency Operations Centers, such as WebEOC, ArcGIS, HAZUS.

f. Development or integration of a realistic, scalable IED blast and damage model.

g. Compatibility with current versions of the DoD models and simulations to support joint exercises among local authorities, DHS Components, USNORTHCOM, National Guard and other agencies.

h. Integration of component systems into a stand-alone PC-based computer simulation system for development of tailored scenarios to support course of action analysis and scenario-based training and exercises for local authorities.

Phase IV—Prototype Demonstration (Year 3-4).

As detailed in paragraph 2.2.4 above, the specific deliverable for Phase IV is participation in a series of local and table-top exercises culminating in a formal prototype demonstration during a regional or national exercise. The prototype will be based on validation and verification methods and test and evaluation criteria developed in Phase II and III. Specific requirements include:

a. Fielding a prototype Risk Communications Simulation System which has the capability to be integrated with other visual displays and planning tools commonly used in Emergency Operations Centers (e.g., WebEOC, HAZUS, ArcGIS, etc.).

b. Technical evaluation based on the test specifications and validation and verification criteria and their use in conducting appropriate validation and verification of the RCSS.

c. An evaluation of Human Systems Interface (HSI) standards that support requirements for operability, interoperability, usability, maintainability, and supportability.

d. A formal prototype demonstration of the Risk Communications Simulation System during a regional or national-level exercise.

The schedule of tasks and deadlines for major deliverables in Phase II is provided below. The schedule for deliverables in Phases III and IV will be determined at the end of Phase II.

| Deliverables | | | |
|---|---|---|---|
| **SOW Task** | **Deliverable** | **Major Tasks** | **Due Date** |
| **Task 1 (Phase II)** | **Monthly progress report** – See sections 7.1 and 9.3 (appendix C) , for required format | • N/A | 15th of each month following the month being reported. |
| **1a** | **Research and Project Management Plan** – A research and project management plan acceptable to the COTR that will accomplish the project's objectives as outlined in the performer's proposal and agreed to by HFD. | • Draft PMP to be delivered to COTR within 30 days of contract award for approval.<br>• Final PMP for Phases III/IV to be delivered at end of Phase II. | 30 days after award for draft; 12 months after contract award for Final. |
| **1b** | **Feasibility Study** for a Risk Communications Simulation System. | • Evaluate currently available technology and identify research and development approach. | 12 months after award. |
| **1c** | **Concept of Operations for RCSS employment** | • CONOPS for employment of RCSS to be submitted in conjunction with Feasibility Study and Research and Project Management Plans. | 12 months after award. |
| **1d** | **Methodology for evaluation and selection of COTS/GOTS components for RCSS.** | • Methodology for comparative analysis to be submitted to S&T for approval. | No later than 9 months after award or 30 days prior to Industry Symposium. |
| **1e** | **Conduct an "Industry Day" Symposium** | • Solicit participants and display candidate models and simulation systems for potential inclusion as components of the RCSS | Not later than 10 months after award. |
| **1f** | **Technical Specifications and V&V process for RCSS** | • Preliminary specifications at conceptual level to be provided at end of Task 1 with final technical specifications and V&V process at end of Task 2. | 12 months after award with final at conclusion of Phase III. |

| | | | |
|---|---|---|---|
| **1g** | **Detailed cost estimate for proposed RCSS.** | • Includes costs of all hardware, software, labor categories, travel, and associated project, research and development costs. | 12 months after award. |

### 2.5. Government Representatives

Science and Technology:

Michael Dunaway
U.S. Department of Homeland Security
Science and Technology Directorate
Washington, DC 20528
Office: 202-254-6617
Email: michael.dunaway@dhs.gov

Business:

Christopher Wallis
Contracting Officer
Department of Homeland Security
Office of Health Affairs Acquisitions Division
Washington, DC 20528

## 3. Award Information

### 3.1. Available Amount of Funding Expected to be Awarded Through this BAA

Although subject to official fiscal appropriation and availability, it is anticipated that the Human Factors Division will have approximately $440,000 for the Phase II award under this BAA. Funding for future year efforts (Phases III-IV) is subject to DHS appropriations and availability.

### 3.2. Limitation of Funds.

The Government reserves the right to incrementally fund contracts awarded from this BAA as provided by the FAR 52.232-22, "Limitation of Funds."

### 3.3. Anticipated Number of Awards

DHS S&T expects to make one or more awards under this BAA.

### 3.4. Anticipated Award Types

Award type is anticipated to be in the form of a Cost Reimbursement type contract. However the Government reserves the right to award grants, Cooperative Agreements (CAs), Other Transactions (OTs), or interagency agreements (IAA) to appropriate parties should the situation warrant.

### 3.5. Anticipated Period of Performance for New Awards

The period of performance for research efforts and studies proposed under this project are estimated to be as follows:

Phase II: Concept Development and Research Approach (Base Year)
Phase III: Component Development and Integration (Option Year 1 and Option Year 2)
Phase IV—Prototype Demonstration (Option Year 3 and Option Year 4).

Proposals that build on current or previous work are encouraged. However, where Offerors are incorporating work performed under other DHS projects or projects for other government sponsors, the proposal must clearly identify the point of departure and what existing work will be brought forward and what new effort will be performed under this BAA.

Offerors are asked to address Phases II through IV in their proposal to present a plan that sets forth follow-on efforts in subsequent option years. Consideration of the funding of follow-on work in subsequent years will be contingent upon the value of the product(s) produced by the Phase II effort.

## 4. Eligibility Information

This BAA is open to **ALL** responsible sources.

Offerors may include single entities or teams from academia, private sector organizations, Government laboratories, and Federally Funded Research and Development Centers (FFRDCs), including Department of Energy National Laboratories and Centers.

### 4.1. Federally Funded Research & Development Centers

FFRDCs, including Department of Energy National Laboratories and Centers, are eligible to respond to this BAA, individually or as a team member of an eligible principal Offeror, so long as they are permitted under a sponsoring agreement between the Government and the specific FFRDC.

### 4.2. Nonprofit Organizations, Educational Institutions and Small Business Set Aside

The Government encourages nonprofit organizations, educational institutions, small businesses, small disadvantaged business (SDB) concerns, Historically Black Colleges and Universities (HBCU)/ Minority Institutions (MI) (HBCU/MIs), women-owned businesses (WB), and Historically Underutilized Business (HUB) zone enterprises as well as large businesses, academic institutions, and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set-aside for these special entities pursuant to FAR Part 19.502-2, because of the impracticality of reserving discrete or severable areas of research and development in any specific requirement area.

To ensure full consideration in these programs, registration in the https://baa.st.dhs.gov/ website, described later in this document, requires the appropriate business type selection as well as accurate up-to-date information.

### 4.3. Organizational Conflict of Interest

Organizational Conflict of Interest issues will be evaluated on a case-by-case basis, as outlined below. Offerors who have existing contract(s) to provide scientific, engineering, technical and/or administrative support directly to the DHS S&T Directorate will receive particular scrutiny.

(a) Determination. The Government has determined that this effort may result in an actual or potential conflict of interest, or may provide one or more Offerors with the potential to attain an unfair competitive advantage.

(b) If any such conflict of interest is found to exist, the Contracting Officer may (1) disqualify the Offeror, or (2) determine that it is otherwise in the best interest of the United States to contract with the Offeror and include the appropriate provisions to mitigate or avoid such conflict in the contract awarded. After discussion with the Offeror, the Contracting Officer may determine that the actual conflict cannot be avoided, neutralized, mitigated, or otherwise resolved to the satisfaction of the Government, and the Offeror may be found ineligible for award.

(c) Disclosure: The Offeror must represent, as part of its proposal and to the best of its knowledge that: (1) It is not aware of any facts which create any actual or potential organizational conflicts of interest relating to the award of this contract; or (2) It has included information in its proposal, providing all current information bearing on the existence of any actual or potential organizational conflicts of interest, and has included the mitigation plan in accordance with paragraph (d) of this provision.

(d) Mitigation/Waiver. If an Offeror with a potential or actual conflict of interest or unfair competitive advantage believes it can be mitigated, neutralized, or avoided, the Offeror shall submit a mitigation plan to the Contracting Officer for review. Award of a contract where an actual or potential conflict of interest exists shall not occur before Government approval of the mitigation plan.

(e) Other Relevant Information: In addition to the mitigation plan, the Contracting Officer may require further relevant information from the Offeror. The Contracting Officer will use all information submitted by the Offeror, and any other relevant information known to

DHS, to determine whether an award to the Offeror may take place, and whether the mitigation plan adequately neutralizes or mitigates the conflict.

(f) Corporation Change. The successful Offeror shall inform the Contracting Officer within thirty (30) calendar days of the effective date of any corporate mergers, acquisitions, and/or divestures that may affect this provision.

(g) Flow-down. The contractor shall insert the substance of this clause in each first tier subcontract that exceeds the simplified acquisition threshold.

## 5. Application and Submission Information

### 5.1. BAA Package Download.

This BAA package may be downloaded in its entirety from the FedBizOpps website http://www.fbo.gov or from https://baa.st.dhs.gov.

Registration in not required to download the BAA package; however, a registration in https://baa.st.dhs.gov/ is required to upload a response to the BAA.

### 5.2. Application and Submission Process

Submissions will not be accepted from organizations that have not registered. Any organization that wishes to participate in this solicitation must register at: https://baa.st.dhs.gov/. Interested parties are encouraged to register early in the process.

To begin the process, go to https://baa.st.dhs.gov/, and select BAA10-16 from the list on the left side of the screen, and then select the appropriate topic area. Upon proper selection, buttons for registration and submission will appear. Select the appropriate registration button and fill in the requisite fields. Then submit your registration for submission of a White Paper (a completed Human Factors Project Proposal Form (Appendix B)).

Once the registration process is complete, registrants will receive a control identification number via e-mail. This control number is needed to begin the White Paper (DHS S&T Human Factors Project Proposal Form) submission process. To submit your White Paper (DHS S&T Human Factors Project Proposal Form), select the appropriate submission button, fill out the requested fields, upload your files, and then submit. Users will receive confirmation of their submission via e-mail. You may revise your Human Factors Division Project Proposal Form (White Paper) submission until the deadline. Failure to submit a White Paper will disqualify an Offeror from consideration for submitting a Full Proposal.

In teaming situations, the lead organization must remain the same on both the White Paper (in Project Proposal Form format) and the Full Proposal. Any Full Proposal submitted by organizations that were not the lead organization for the White Paper (DHS S&T Human Factors Project Proposal Form) submission will be considered non-responsive.

Full Proposals will be delivered via upload in accordance with instructions provided during registration. No Classified White Papers or Full Proposals (or portions of proposals) will be accepted.

### 5.3. Format and Content of White Papers (DHS S&T Human Factors Project Proposal Form)

It is required that a White Paper in DHS Human Factors Project Proposal Format be submitted prior to a Full Proposal to determine the acceptability of the proposed concept to Broad Agency Announcement requirements. Submitters whose White Papers are accepted for further consideration will be encouraged to submit Full Proposals. Awards will be based on the Full Proposal.

For the purposes of this submission, a completed Human Factors Project Proposal Form constitutes a White Paper. A template for the DHS S&T Human Factors Project Proposal Form format is provided in Appendix B (section 9.2), and all White Paper submissions must comply with the template instructions. Entries in the various sections of the Project Proposal Form should be concise and conform to the specified word count limitations. All pages shall be printed single-spaced on 8-1/2 by 11 inch paper with type not smaller than 12 point font. Pertinent figures, tables, and charts are encouraged and are not included in the word count and font size limitation for the various sections of the Project Proposal Form. The font for diagrams, figures, or tables should have fonts that are legible – no smaller than 8 point font.

### 5.4. Format and Content of Full Proposals

See the Anticipated Schedule of Events in paragraph 4.6 for the due date for receipt of White Papers and Full Proposals**. Full Proposals WILL NOT BE ACCEPTED after the published due date.** Proposals that exceed the page limit will not have the extra pages reviewed, which may affect the proposal rating.

Only Offerors who submit a Human Factors Project Proposal Form (White Paper) will be considered for Full Proposals. The Government will advise in writing those Offerors encouraged to submit Full Proposals and those Offerors not encouraged to submit Full Proposals. Offerors receiving a letter which discourages submission of a full proposal may choose to disregard the notice and proceed with full proposal submission. NOTE: The validity period of Full Proposals shall be twelve months after proposal closing date.

Full proposals will consist of two volumes: a Technical Proposal volume and a Cost Proposal volume.

- Paper Size – 8.5-by-11-inch paper
- Margins – 1 inch
- Spacing – Single- or double-spaced

- Font – Times New Roman, 12 point. Text embedded within graphics or tables in the body of the Project Description Form should be legible and not smaller than 8 point.
- Number of Pages –
  - Volume 1 (Technical Proposal): No more than 30 single-sided pages. Full proposals exceeding the page limit will not be evaluated. The Official Transmittal Letter, as well as the cover page, table of contents and resumes and *curriculum vitae* (CVs) about potential performers in the Full Proposal are not subject to the page limitation.
  - Volume 2: (Cost Proposal): No page limitation.
- Copies – A proposal shall consist of one electronic file for the Technical Proposal volume and one electronic volume for Cost proposal volume. Electronic files will be in portable document format (PDF), readable by IBM-compatible PCs. Each file size must be no more than 10 MB.

### 5.4.1 Volume 1: Technical Proposal

Volume I of the Full Proposal shall be in the form of a Technical Proposal volume. Responsiveness to the order and content of sections listed in Volume I is important to assure thorough and fair evaluation of proposals. Nonconforming proposals may be rejected without review. The Technical Proposal shall cover all of the elements of the Project Proposal Form (White Paper) that was submitted. In particular, the Technical Proposal must cover the following points in more detail:

- Official Transmittal Letter: This is an official transmittal letter with authorizing official signature. For an electronic submission, the letter can be scanned into the electronic proposal. The letter of transmittal shall state whether this proposal has been submitted to another government agency, other than DHS S&T, and if so, which one and when.
- Cover Page: This should include the words "Technical Proposal" and the following:
  1) BAA number;
  2) Title of Proposal;
  3) Identity of prime Offeror and complete list of subcontractors, if applicable;
  4) Technical contact (name, address, phone/fax, electronic mail address);
  5) Administrative/business contact (name, address, phone/fax, electronic mail address); and,
  6) Duration of effort (separately identify the basic effort and any options)
- Table of Contents
- Executive Summary: Summarize the Proposal and the expected benefits of the solution.

- Proposal: Describe the proposed work and the associated technical and management issues.
- Performance Goals: Describe the overall methodology and how it will meet the objectives.
- Detailed Technical Approach: Describe the proposed technical issues and methodology to address the stated program objectives set forth.
- Statement of Work (SOW), Schedule, and Milestones: Provide an integrated display for the proposed research, showing each task with major milestones. Include a proposed schedule for the effort (estimated dates of tasks, milestones and deliverables). Describe how each task will be performed and identify sub-tasks, if appropriate. Include a section clearly marked as the SOW you propose to undertake. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award.
- Deliverables: Provide a brief summary of all deliverables proposed under this effort, including data, hardware, reports/papers, and sensor image outputs consistent with the objectives of the work, along with due dates (calendar days after the effective date of award). This section shall be severable, i.e., it will begin on a new page and the following section shall begin on a new page. It is anticipated that the proposed detailed list and description of all deliverables will be incorporated as an attachment to the resultant award instrument. To this end, proposals must include a severable self-standing detailed list and description of all deliverables without any proprietary restrictions, which can be attached to the contract or agreement award.
- Management Plan: Provide a brief summary of the management plan, including an explicit description of what role each participant or team member will play in the project, and their past experience in technical areas related to this proposal.
- Small Business Subcontracting Plan in conformance with the requirements contained in FAR 52.219-9 (reference section 8.5, Solicitation Provisions/Clauses)
- Facilities: List the location(s) where the work will be performed, and the facilities to be used. Describe any specialized or unique facilities which directly affect the effort.
- Government-Furnished Resources: Provide a brief summary of required information and data which must be provided by the Government to support the proposed work, if any.
- Cost Summary: Summarize the projected total costs for each task in the initial period of performance and any proposed option years of the effort, including a summary of subcontracts, man hours, and consumables.
- Resumes for Key Personnel: In Appendix A, provide resumes and *curriculum vitae* (CVs) for each of the key personnel. These resumes do not count toward the 20-page limit.

- Other DHS Support: As an appendix, provide a list of any current or pending awards or proposals with DHS that pertain to this work. This section will not count towards the 20-page limit.
- Assertion of Data Rights: Due to the nature of this research and development project, the Government will need information to evaluate the deliverable in a field prototype evaluation scenario with Government personnel, such as the Transportation Security Agency (TSA), Customs and Border Protection (CBP), Secret Service, etc. Therefore, include here a summary of any assertions to any technical data or computer software that will be developed or delivered under any resultant award. This includes any assertions to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If less than unlimited rights in any data delivered under the resultant award are asserted, the Offeror must explain how these rights in the data will affect its ability to deliver research data, subsystems, and toolkits for integration as set forth below. Additionally, the Offeror must explain how the program goals are achievable in light of these proprietary and/or restrictive limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

  Proposals submitted in response to this BAA shall identify all technical data or computer software that the Offeror asserts will be furnished to the Government with restrictions on access, use, modification, reproduction, release, performance, display, or disclosure. Offeror's pre-award identification shall be submitted as an attachment to its offer and shall contain the following information:

  (1) Statement of Assertion. Include the following statement: "The Offeror asserts for itself, or the persons identified below, that the Government's rights to access, use, modify, reproduce, release, perform, display, or disclose only the following technical data or computer software should be restricted:"

  (2) Identification of the technical data or computer software to be furnished with restrictions. For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such item, component, or process as specifically as possible (e.g., by referencing specific sections of the proposal or specific technology or components). For computer software or computer software documentation, identify the software or documentation by specific name or module or item number.

  (3) Detailed description of the asserted restrictions. For each of the technical data or computer software identified above in paragraph (2), identify the following information:

  (i) Asserted rights. Identify the asserted rights for the technical data or computer software.

  (ii) Copies of negotiated, commercial, and other non-standard licenses.

Offeror shall attach to its offer for each listed item copies of all proposed negotiated license(s), Offeror's standard commercial license(s), and any other asserted restrictions other than Government purpose rights; limited rights; restricted rights; rights under prior Government contracts, including Small Business Innovation Research (SBIR) data rights for which the protection period has not expired; or Government's minimum rights.

(iii) Specific basis for assertion. Identify the specific basis for the assertion. For example:

(A) Development at private expense, either exclusively or partially.

For technical data, development refers to development of the item, component, or process to which the data pertains. For computer software, development refers to the development of the software. Indicate whether development was accomplished exclusively or partially at private expense.

(B) Rights under a prior Government contract, including SBIR data rights for which the protection period has not expired.

(C) Standard commercial license customarily provided to the public.

(D) Negotiated license rights.

(iv) Entity asserting restrictions. Identify the corporation, partnership, individual, or other person, as appropriate, asserting the restrictions.

(4) Previously delivered technical data or computer software. The Offeror shall identify the technical data or computer software that are identical or substantially similar to technical data or computer software that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The Offeror need not identify commercial technical data or computer software delivered subject to a standard commercial license.

(5) Estimated cost of development. The estimated cost of development for that technical data or computer software to be delivered with less than Unlimited Rights.

(6) Supplemental information. When requested by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate the Offeror's assertions. Sufficient information must include, but is not limited to, the following:

(i) The contract number under which the data or software were produced;

(ii) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(iii)Identification of the expiration date for any limitations on the

Government's rights to access, use, modify, reproduce, release, perform, display, or disclose the data or software, when applicable.

Ineligibility for award. An Offeror's failure to submit or complete the identifications and assertions required by this provision with its offer may render the offer ineligible for award.

It is anticipated that the proposed Assertion of Data Rights will be incorporated as an attachment to the resultant award instrument. To this end, proposals must include a severable self-standing Assertion of Data Rights without any proprietary restrictions, which can be attached to the contract or agreement award.

### 5.4.2 Volume 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 and Part 2. Part 1 will provide a detailed cost breakdown of all costs by cost category and Part 2 will provide a Cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Options (Phases III and IV) must be separately priced.

Cover Page: The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA number;
- Title of Proposal;
- Identity of prime Offeror and complete list of subcontractors, if applicable;
- Technical contact (name, address, phone/fax, electronic mail address);
- Administrative/business contact (name, address, phone/fax, electronic mail address) and;
- Duration of effort (separately price out the basic effort and any options)

Part 1: Detailed breakdown of all costs by cost category. The Offeror should provide a total estimated price for major demonstrations and other activities associated with the program, including cost sharing, if any. The Offeror should state whether any Independent Research and Development (IR&D) program is or will be dedicated to this effort, or if IR&D is being pursued to benefit related programs as well. Any cost sharing estimates should include the type of cost share, i.e. cash or in-kind. If in-kind is proposed, the Offeror should provide a discussion of how the cost share was valued.

- Direct Labor – Individual labor category or person, with associated labor hours and ***unburdened*** direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (***Must show base amount and rate***)
- Travel – Number of trips, destinations, durations, etc. (Travel estimate should include costs for attendance/presentation at an annual one-day Chemical Forensics Program Review that is held in the Washington metropolitan area).

- Subcontract – A cost proposal ***as detailed as the Offeror's cost proposal*** will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date;
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- Materials should be specifically itemized with costs or estimated costs. Where possible, indicate purchasing method (competition, engineering estimate, market survey, etc.)
- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. Justifications must be provided when Government funding for such items is sought.
- Fee/Profit including fee percentage.

Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

The Cost Proposal should be consistent with your proposed SOW. Activities such as demonstrations (i.e., the Industry Day symposium) required to reduce the various technical risks should be identified in the SOW and reflected in the Cost Proposal. The Offeror should provide a total estimated price for the major Research, Development, Test, and Evaluation (RDT&E) activities associated with the program.

### 5.5. Protection of Information Uploaded to BAA Website:

All data uploaded to https://baa.st.dhs.gov/ is protected from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. Documents may only be reviewed by the registrant, authorized Government representatives, and assigned evaluators. Offerors submitting proprietary information should specifically mark or identify any information they perceive is proprietary for which they seek added protection.

### 5.6. Significant Dates and Times

DHS S&T plans to review all White Papers and subsequent Full Proposals in accordance with the "Anticipated Schedule of Events" set forth in the table in this section, using the evaluation criteria described in Section 6.1. After the review of White Papers (Human Factors Project Proposal), DHS S&T will notify Offerors, electronically or in writing, either encouraging or discouraging submission of a Full Proposal based upon that review. No additional feedback will be provided to Offerors when proposals are discouraged. A Review Panel will evaluate the Full Proposals using the criteria specified under the evaluation criteria set forth in Section 6.1. Following that review, Offerors will be notified

whether or not their proposal has been selected for negotiation. It is anticipated that multiple awards may be made under this BAA.

The Government reserves the right to fund none, some, or all of the proposals received. It is the intention upon completion of the proposal evaluation to notify Offerors of an initiation of negotiation for awards or rejection of their proposal. Feedback will be given to Offerors receiving rejection notices if a request for feedback is submitted within three (3) calendar days of receiving notice. Awards will be made based on the evaluation, funds availability, and other programmatic considerations.

| **Anticipated Schedule of Events** | | |
|---|---|---|
| **Event** | **Due Date** | **Time (E.S.T.)** |
| BAA Posted to Website | 8/10/10 | 4:30 PM |
| Deadline for Submission of Project Proposal Form (White Paper) Questions | 8/19/10 | 4:30 PM |
| White Paper (in Project Proposal Form format) Website Registration Deadline – White Paper (Project Proposal Form) Due Date | 9/7/10 | 4:30 PM |
| Invitations to Submit Full Proposals Sent | 9/20/10 | N/A |
| Deadline for Submission of Full Proposal Questions | 10/4/10 | 4:30 PM |
| Full Proposal Website Registration Deadline - Full Proposal Due Date | 10/18/10 | 4:30 PM |
| Notification of Selection for Award Negotiations | 11/18/10 | N/A |
| Contract Award | TBD | N/A |
| Kickoff Meetings | TBD | TBD |

White Papers (in Project Proposal format) and Full Proposals **WILL NOT BE ACCEPTED** after the published due dates.

### 5.7. Further Assistance for this BAA

The applicable electronic address for all correspondence for this BAA is: BAA10-16@dhs.gov. For technical assistance with using the https://baa.st.dhs.gov/ website, submit questions to the administrators at BAA@hsarpabaa.com.

### 5.8. BAA Contractual and Technical Questions.

All contractual and technical questions regarding this BAA, including the published requirements and instructions, must be directed to the Contracting Officer at BAA mailbox "BAA09-13@dhs.gov. The program and technical staff will not acknowledge, forward, or respond to any inquiries received in any other manner concerning this BAA. Contractual questions and answers will be posted periodically under the Frequently Asked Questions (FAQs) section on the www.fbo.gov and https://baa.st.dhs.gov websites.

# 6. Evaluation Information

## 6.1. Evaluation Criteria

The evaluation of White Papers (in Human Factors Program Project Proposal format) and Full Proposals will be accomplished through an independent scientific and technical review using the following criteria, which are listed in descending order of relative importance.

**Criterion I: Potential Contribution and Relevance to DHS S&T/HFD Mission:** Potential of the proposed work for providing technology or solutions that meet the requirements, systems attributes, and performance parameters set forth in Sections 2.1-2.3. of this BAA. The effort will be judged on the extent to which the proposed effort will meet objectives as described in program description and objectives. Each phase of the proposed effort must show progress toward those objectives. This factor will also value future potential contributions to future system applications, even if not completed during the effort. Preference will be given to the approaches that offer the greatest potential for use across the widest audience of end-users and applications related to the mission of the Department of Homeland Security. Usability, ease of use, compatibility with other M&S/GIS/IT systems, and scalability from local to regional levels are highly desired qualities in the proposed tools and model.

**Criterion II: Overall Scientific and Technical Merit:** Presentation of a sound technical approach to the proposed work that demonstrates reasonableness and responsiveness to, understanding of, as well as a clear path to address challenges presented by Sections 2.1-2.3 of this BAA.

**Criterion III: Sound Management Approach:** Presentation of a sound managerial approach to the proposed work, including a demonstrated understanding of the issues and challenges associated with fulfilling project requirements, as well as a strategy to address project requirements, issues and challenges. A successful team will possess multidisciplinary expertise to address the complexity of the effort.

**Criterion IV: Offeror's Capabilities and History of Performance:** Demonstration of a capability of the contractor's team and team members to perform the proposed work, including history of previous performance in developing related solutions and technologies. Proposals that utilize industry-academic partnering or utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration.

**Criterion V: Cost Realism:** Presentation of accurate, well-founded and reasonable estimates of all costs related to performance of the proposed effort, including an appropriate allocation of labor resources.

Evaluation of White Papers and Full Proposals will be based on an assessment of the proposed solutions which are most advantageous to the Government based on the aforementioned criteria. Awards will be made based upon Full Proposal evaluation, funds

availability, and other programmatic considerations, including awards to lesser rated proposals where alternative approaches and technologies are deemed to be more technically advantageous.

**NOTE: DHS S&T reserves the right to select for award and fund all, some, or none of the Full Proposals received in response to this announcement. For those proposals that are selected but are on hold for funding, offerors will be so advised and asked to confirm that their proposals remain valid for funding for twelve months from the date of submission.**

### 6.2. Evaluation Panel

All properly submitted White Papers (in Human Factors Program Project Proposal format) and Full Proposals that conform to the BAA requirements will be evaluated by a review panel comprised of Government technical experts drawn from staff within DHS S&T and other Federal agencies. All Government personnel are bound by public law to protect proprietary information.

Contract personnel who provide support (administrative and advisory) to the panel and who have access to proposals at any stage will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information and shall certify that they have no financial interest in any submissions. They will not be permitted to release any source-selection information to third parties, including others in their organization. Submissions and information received in response to this BAA constitute permission to disclose that information to certified evaluators under these conditions.

## 7. Award Administration Information

### 7.1. Reporting

The following *minimum* deliverables will be required under traditional procurement contracts or other transactions agreements awarded to those Offerors whose Full Proposals are selected for award.

Monthly Project Status Report

Reports of project status will be solicited on a monthly basis from all performers using "Monthly Project Status Report Forms." A sample of the Monthly Project Status Report Form is provided in Appendix C (section 9.3) of this BAA. These reports will be electronically submitted to the program manager within fifteen days after the last day of each month. The Monthly Project Status Report Forms provide a standardized format to collect the following information:

Static Information (Information that does not change monthly over the project):

- Project Title
- DHS Project Control #

- Period of Performance
- Principal Investigator's Name, Telephone Number, E-mail and Unclassified/Secure Facsimile Number(s)
- Performer's Financial Contact Name and Telephone Number

Monthly Update Information to Be Provided in Bulleted or Short Narrative Format:

- Activity During the Past Reporting Period (month)
- Progress Achieved Against Deliverable(s) During Reporting Period
- Progress Achieved Against Project Milestones and Tasks During Reporting Period
- Deliverables Submitted This Period
- Milestones Reached/Achieved This Period
- Other Noteworthy Accomplishments (Meetings, Presentations, Publications, etc.)
- Topics of Concern/Slippage (Technical, Schedule and/or Cost)
- Recovery Plan (if needed)
- Explicit Plans for Next Month
- Project Budget Information (Amount Spent During Reporting Period, Cumulative Amount Spent Since Project Inception, and Amount of Funding Remaining)

Performers are requested to provide monthly update information only in those sections of the form that are applicable to the activities performed during the reporting period. If there is no updated information to report in a section, it can be marked "N/A" for Not Applicable, or left blank.

The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the contracting agent:

- Monthly Progress Status Reports
- Presentation Material
- Other Documents or Reports
- Final Report (suitable for publishing and peer review)

### 7.2. Project Conferences, Meetings and Reviews

Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the deliverables and major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that one of these one-day meetings will be at or near DHS S&T, Washington D.C., and one other meeting will be held at the contractor's facility or a near-by government facility.

### 7.3. Additional Deliverables

Performers should define additional program-specific deliverables as appropriate for the proposed approach. The Government may describe additional deliverables at the time full proposals are requested.

It is desired, whenever possible, that final reports be in a format that is publishable in appropriate scientific journals so that peer-review can be conducted.

## 8. Other Information

### 8.1. Government Property, Government Furnished Equipment, and Facilities

The Government may provide government-furnished equipment (GFE), resources (GFR), information (GFI), or services (GFS) under the terms of each negotiated contract or agreement. GFE, GFR, GFI, or GFS requested by an Offeror must be factored into the Offeror's project cost. Each Offeror must provide a very specific description of any equipment or hardware it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment or hardware will be included as part of a deliverable item under the resulting award.

In addition, this description should identify the component, nomenclature, and configuration of the equipment or hardware that it proposes to purchase for this effort. The Government wants to have the contractor purchase the equipment or hardware for deliverable items under its contract. It will evaluate case-by-case the purchase, on a direct reimbursement basis, of special test equipment or other equipment not included in a deliverable item. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities may be available, and should be considered as potential GFE. These facilities and resources are of high value, and some are in constant demand by multiple programs. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend and why.

### 8.2. Security Classification

No Classified Project Description Forms or Full Proposals (or portions of proposals) will be accepted.

### 8.3. Information for White Paper and Full Proposal Respondents

This BAA is for planning purposes only. It will not be construed as an obligation on the part of the Government to acquire any products or services. No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of submission of responses to this BAA and the Government's use of such information. Unnecessarily elaborate responses containing extensive marketing materials are not desired.

## 8.4. SAFETY Act

As part of the Homeland Security Act of 2002, Congress enacted the Support Anti-Terrorism by Fostering Effective Technologies Act of 2002 (the "SAFETY Act"). The SAFETY Act puts limitations on the potential liability of firms that develop and provide qualified anti-terrorism technologies. DHS S&T, acting through its Office of SAFETY Act Implementation (OSAI), encourages the development and deployment of anti-terrorism technologies by making available the SAFETY Act's system of "risk management" and "liability management." Offerors submitting proposals in response to this BAA are encouraged to submit SAFETY Act applications for their existing technologies. They are invited to contact OSAI for more information, at 1-866-788-9318 or helpdesk@safetyact.gov. They also can visit OSAI's Web site at www.safetyact.gov.

## 8.5. Solicitation Provisions/Clauses

**FAR 52.209-2 Prohibition on Contracting with Inverted Domestic Corporations-Representation (July 2009).**

(a) *Definition.* — "Inverted domestic corporation" means a foreign incorporated entity which is treated as an inverted domestic corporation under 6 U.S.C. 395(b), *i.e.*, a corporation that used to be incorporated in the United States, or used to be a partnership in the United States, but now is incorporated in a foreign country, or is a subsidiary whose parent corporation is incorporated in a foreign country, that meets the criteria specified in 6 U.S.C. 395(b), applied in accordance with the rules and definitions of 6 U.S.C. 395(c).

(b) *Relation to Internal Revenue Code*. A foreign entity that is treated as an inverted domestic corporation for purposes of the Internal Revenue Code at 26 U.S.C. 7874 (or would be except that the inversion transactions were completed on or before March 4, 2003), is also an inverted domestic corporation for purposes of 6 U.S.C. 395 and for this solicitation provision (see FAR 9.108).

(c) *Representation*. By submission of its offer, the offeror represents that it is not an inverted domestic corporation and is not a subsidiary of one.

(End of provision)

**FAR 52.222-54 Employment Eligibility Verification (Jan 2009).**

(a) *Definitions.* As used in this clause—

—Commercially available off-the-shelf (COTS) item‖ —

(1) Means any item of supply that is—

(i) A commercial item (as defined in paragraph (1) of the definition at 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in section 3 of the Shipping Act of 1984 (46 U.S.C. App. 1702), such as agricultural products and petroleum products. Per 46 CFR

525.1(c)(2), ―bulk cargo‖ means cargo that is loaded and carried in bulk onboard ship without mark or count, in a loose unpackaged form, having homogenous characteristics. Bulk cargo loaded into intermodal equipment, except LASH or Seabee barges, is subject to mark and count and, therefore, ceases to be bulk cargo.
―Employee assigned to the contract‖ means an employee who was hired after November 6, 1986, who is directly performing work, in the United States, under a contract that is required to include the clause prescribed at 22.1803. An employee is not considered to be directly performing work under a contract if the employee—
(1) Normally performs support work, such as indirect or overhead functions; and
(2) Does not perform any substantial duties applicable to the contract.
―Subcontract‖ means any con tract, as defined in 2.101, entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.
―Subcontractor‖ means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime Contractor or another subcontractor.
―United States,‖ as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands.

(b) *Enrollment and verification requirements.*

(1) If the Contractor is not enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall—
(i) *Enroll*. Enroll as a Federal Contractor in the E-Verify program within 30 calendar days of contract award;
(ii) *Verify all new employees*. Within 90 calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); and
(iii) *Verify employees assigned to the contract.* For each employee assigned to the contract, initiate verification within 90 calendar days after date of enrollment or within 30 calendar days of the employee's assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).
(2) If the Contractor is enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall use E-Verify to initiate verification of employment eligibility of—
(i) *All new employees.*
(A) *Enrolled 90 calendar days or more*. The Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or
(B) *Enrolled less than 90 calendar days*. Within 90 calendar days after enrollment as a Federal Contractor in E-Verify, the Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section ); or
(ii) *Employees assigned to the contract*. For each employee assigned to the contract, the Contractor shall initiate verification within 90 calendar days after date of contract

award or within 30 days after assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).
(3) If the Contractor is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State or local government or the government of a Federally recognized Indian tribe; or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the Contractor may choose to verify only employees assigned to the contract, whether existing employees or new hires. The Contractor shall follow the applicable verification requirements at (b)(1) or (b)(2), respectively, except that any requirement for verification of new employees applies only t new employees assigned to the contract.
(4) *Option to verify employment eligibility of all employees*. The Contractor may elect to verify all existing employees hired after November 6, 1986, rather than just those employees assigned to the contract. The Contractor shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986, within 180 calendar days of—
(i) Enrollment in the E-Verify program; or
(ii) Notification to E-Verify Operations of the Contractor's decision to exercise this option, using the contact information provided in the E-Verify program Memorandum of Understanding (MOU).
(5) The Contractor shall comply, for the period of performance of this contract, with the requirement of the E-Verify program MOU.
(i) The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the Contractor's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the Contractor will be referred to a suspension or debarment official.
(ii) During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the Contractor is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the Contractor, then the Contractor must reenroll in E-Verify.

(c) *Web site*. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: http://www.dhs.gov/E-Verify .

(d) *Individuals previously verified*. The Contractor is not required by this clause to perform additional employment verification using E-Verify for any employee—
(1) Whose employment eligibility was previously verified by the Contractor through the E-Verify program; (2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or
(3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD) -12, Policy for a Common Identification Standard for Federal Employees and Contractors.
(e) *Subcontracts*. The contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for identification of the parties), in each subcontract that—
(1) *Is for*—

(i) Commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or
(ii) Construction;
(2) Has a value of more than $3,000; and
(3) Includes work performed in the United States.

(End of Clause)

**FAR 52.227-17 Rights in Data – Special Works**

(a) *Definitions.* As used in this clause--

—Data‖ means recorded information, regardless of form o r the medium on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

—Unlimited rights‖ means the rights of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) *Allocation of Rights.*

(1) The Government shall have—
(i) Unlimited rights in all data delivered under this contract, and in all data first produced in the performance of this contract, except as provided in paragraph (c) of this clause for copyright. (ii) The right to limit assertion of copyright in data first produced in the performance of this contract, and to obtain assignment of copyright in that data, in accordance with paragraph (c)(1) of this clause.
(iii) The right to limit the release and use of certain data in accordance with paragraph (d) of this clause.
(2) The Contractor shall have, to the extent permission is granted in accordance with paragraph (c)(1) of this clause, the right to assert claim to copyright subsisting in data first produced in the performance of this contract.

(c) *Copyright—*

(1) *Data first produced in the performance of this contract.*
(i) The Contractor shall not assert or authorize others to assert any claim to copyright subsisting in any data first produced in the performance of this contract without prior written permission of the Contracting Officer. When copyright is asserted, the Contractor shall affix the appropriate copyright notice of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. The Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license for all delivered data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government.

(ii) If the Government desires to obtain copyright in data first produced in the performance of this contract and permission has not been granted as set forth in paragraph (c)(1)(i) of this clause, the Contracting Officer shall direct the Contractor to assign (with or without registration), or obtain the assignment of, the copyright to the Government or its designated assignee.

(2) *Data not first produced in the performance of this contract.* The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contain the copyright notice of 17 U.S.C. 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause.

(d) *Release and use restrictions.* Except as otherwise specifically provided for in this contract, the Contractor shall not use, release, reproduce, distribute, or publish any data first produced in the performance of this contract, nor authorize others to do so, without written permission of the Contracting Officer.

(e) *Indemnity*. The Contractor shall indemnify the Government and its officers, agents, and employees acting for the Government against any liability, including costs and expenses, incurred as the result of the violation of trade secrets, copyrights, or right of privacy or publicity, arising out of the creation, delivery, publication, or use of any data furnished under this contract; or any libelous or other unlawful matter contained in such data. The provisions of this paragraph do not apply unless the Government provides notice to the Contractor as soon as practicable of any claim or suit, affords the Contractor an opportunity under applicable laws, rules, or regulations to participate in the defense of the claim or suit, and obtains the Contractor's consent to the settlement of any claim or suit other than as required by final decree of a court of competent jurisdiction; and these provisions do not apply to material furnished to the Contractor by the Government and incorporated in data to which this clause applies.

(End of Clause)

# 9. Appendices

## 9.1. Appendix A – List of Acronyms

## 9.2. Appendix B - White Paper Format (Human Factors Program Project Proposal)

## 9.3. Appendix C - Human Factors Program Monthly Project Status Report

## 9.1 - APPENDIX A – List of Acronyms

| | |
|---|---|
| BAA | Broad Agency Announcement |
| CA | Cooperative Agreement |
| COTS | Commercial Off-The-Shelf |
| DHS | Department of Homeland Security |
| DOE | Department of Energy |
| FAQs | Frequently Asked Questions |
| FAR | Federal Acquisition Regulations |
| FedBizOps | Federal Business Opportunities (www.fbo.gov) |
| FOUO | For Official Use Only |
| FFRDC | Federally Funded Research and Development Center |
| G&A | General and Administrative |
| GFE | Government-Furnished Equipment |
| GFI | Government-Furnished Information |
| GFR | Government-Furnished Resources |
| GFS | Government-Furnished Services |
| GOTS | Government Off-The-Shelf |
| HBCU | Historically Black Colleges and Universities |
| HF/BSD | Human Factors / Behavioral Sciences Division |
| HSPD | Homeland Security Presidential Directive |
| HUB | Historically Underutilized Business |
| IAA | Interagency Agreement |
| OSAI | Office of SAFETY Act Implementation (DHS) |
| OTs | Other Transactions |
| PDF | Portable Document Format |
| PL | Public Law |
| PPF | Project Proposal Form (Human Factors Project Proposal Form used in place of narrative White Paper (treated as White Paper on website) |
| RFP | Request for Proposal |
| RDT&E | Research, Development, Test and Evaluation |
| S&T | Science and Technology |
| SAFETY Act | Support Anti-Terrorism by Fostering Effective Technologies Act 2002 |
| SDB | Small Disadvantaged Business |

## 9.2 – APPENDIX B - White Paper Format (Human Factors Project Proposal Form)

# HUMAN FACTORS PROGRAM
# PROJECT PROPOSAL FORM (White Paper)

| **Name of Project** |
|---|
| Project Name |
| **Name(s) and Contact Information of Performers** |
| Name:<br>Mailing Address:<br>Telephone:<br>Fax:<br>Secure Fax:<br>Email:<br>Secure Email : |
| **Name and Contact Information of Financial Contact** |
| Name:<br>Mailing Address:<br>Telephone:<br>Fax:<br>Email: |
| **Requirement Addressed** (500 words or less) (Reference Technology Focus Area[s]) |
| |
| **Summary of Technical Approach & Project Activity** (2,500 words or less) |
| |
| **Justification & Potential Benefits/Outcomes of Project** (750 words or less) |
| |
| **List of Tasks and Schedule** (From Contract Award Date) (1,000 words or less) |
| Task 1: (Contract Award Date to X month)<br>Task 2: (Month X to X month)<br>…<br>Task N: (Month X to X month) (Note: POP not to exceed XX months) |
| **Cost of Each Task/Total Project Cost** |
| Task 1 Cost: $<br>Task 2 Cost: $<br>Task N Cost: $<br>**Total Cost: $** |
| **Breakout and Categorization of Costs** |
| Labor: **$**<br>M&S: **$**<br>Capital Equipment: **$**<br>Travel: **$**<br>Indirects: **$**<br><br>Estimated Labor Hours: ____ Hours<br>Average Cost per Labor Hour: **$** ____/hour |
| **Description of Deliverable(s) and Schedule of Delivery** |
| Deliverable 1: (Contract Award Date + X months)<br>Deliverable 2: (Contract Award Date + X months)<br>…<br>Deliverable N: (Contract Award Date + X months) |
| **Go / No Go Decision Point(s) for Project Completion &/or Follow-On Work** (150 words or less) |
| Project Completion and/or Follow-on Decision Point(s): (*Criteria at completion of particular Task or* |

| |
|---|
| *Deliverable* (Contract Award Date + X months) |
| **Related Experience/Qualifications of Performer(s)/Laboratory** (500 words or less) |
| |
| **References/Related Research** (500 words or less) |
| |
| **Comments** (500 words or less) |
| |

## 9.3. – APPENDIX C- Human Factors Monthly Project Status Report

**DHS S&T HUMAN FACTORS PROGRAM**
**MONTHLY PROJECT STATUS REPORT FORM**
**CONTRACTOR: XXX**
**MONTHLY PROJECT STATUS REPORT # x**
**For: _____ (Month/Yr.)**
**Date Submitted:**
**(Must be submitted to DHS PM by 15th of following month after reporting period)**

| | |
|---|---|
| **Deliverable:** | |
| **Project Title:** | |
| **Purchase Request/IAA No.:** | **Period of Performance: Contract Award Date (C.A.D. + X Months)** |
| **Principal Investigator (PI):** | **PI Telephone No.:** |
| **PI e-mail:** | **PI Facsimile No.:** |
| **Financial Contact:** | **Financial Contact Telephone No.:** |
| **DHS Program Manager:** | **DHS PM Telephone No.:** |
| **DHS PM Email:** | **DHS PM Facsimile No.:** |

***(Instructions: Provide bullets, short narrative and/or budget information updates in regular (non-Bold) font at areas marked with "xxx," where applicable. If nothing relevant to report occurred during reporting period, designate with "NTR" (nothing to report) or N/A (not applicable). Use Bold font if a noteworthy technical accomplishment is being reported that is appropriate for bringing to the attention of DHS and other federal senior managers [e.g. DHS Secretariat or White House]. Completed forms should be provided as attachments to an email to the COTR by the 15th day following the end of the reporting period.***

**Activity During Past Month:**

**Progress Achieved Against Deliverables:**
**Deliverable 1:**
**Deliverable 2:**
**Deliverable n:**

**Progress Achieved Against Project/Milestones/Tasks This Reporting Period:**
**Task 1:**
- **Task 1.1:**
- **Task 1.2:**

**Task 2:**
- **Task 2.1:**
- **Task 2.2:**
- **Task 2.n:**

**Task 3:**
- **Task 3.1:**
- **Task 3.2:**
- **Task 3.n:**

**Deliverables Submitted This Period:**

**Milestones Reached/Achieved This Period:**

**Other Noteworthy Accomplishments (Meetings, Presentations, Publications, etc.):**

**Topics of Concern/Slippage:**
- **Technical -**
- **Cost -**
- **Schedule –**

**Recovery Plan (if needed):**

**Explicit Plans for Next Month:**
**Task # _:**
**Task # _:**

**Project Budget Information: (Provide summary in table below and affix copy of monthly contract billing statement submitted to DHS Contracts Office).**

| | |
|---|---|
| **Total FY 2009 Funding Available:** | $ |
| **Spent this Month:** | $ |
| **Cumulative Amount Spent since Inception of Project:** | $ |
| **Amount of Funding Remaining:** | $ |